Scientific Areas of Integrated Review Groups (IRGs)

For a listing of the Scientific Review Officer and membership roster for each study section, click on the study section roster under the study section name within an IRG listed below or go to the study section index (study sections listed alphabetically) and click on the specified roster next to the name of the study section.

Biobehavioral and Behavioral Processes IRG [BBBP]

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- Biobehavioral Regulation, Learning and Ethology Study Section [BRLE]
- Biobehavioral Mechanisms of Emotion, Stress and Health Study Section [MESH]
- Language and Communication Study Section [LCOM]
- Cognition and Perception Study Section [CP]
- Adult Psychopathology and Disorders of Aging Study Section [APDA]
- Child Psychopathology and Developmental Disabilities Study Section [CPDD]
- Motor Function, Speech and Rehabilitation Study Section [MFSR]
- Biobehavioral and Behavioral Processes Small Business Activities Special Emphasis Panels [BBBP Small Business SEPs]
- Cognition, Language and Perception Fellowship Study Section [F12A]
- Psychopathology, Developmental Disabilities, Stress and Aging Fellowship Study Section [F12B]

Biobehavioral Regulation, Learning and Ethology Study Section [BRLE]

[BRLE Roster]

The Biobehavioral Regulation, Learning and Ethology [BRLE] Study Section reviews applications investigating basic biobehavioral processes and adaptation across the lifespan [infancy through old age]. The Study Section primarily considers research with non-human animals [vertebrates and invertebrates], but relevant work with humans is also included. Normal and disordered processes are addressed. Although the focus is on behavior, studies may also consider related neural, hormonal, and genetic factors. Methods include [but are not limited to] behavioral experiments, naturalistic observation, pharmacologic interventions, and computational modeling.

Specific areas covered by BRLE:

- Learning, cognition, and behavioral control: Classical and operant conditioning; sensitization and habituation; choice; observational and social learning; sensory, perceptual, spatial, motor, and navigational abilities; timing, counting and other quantitative abilities; attention; memory; categorization; problem-solving; executive function
- Behavioral mechanisms of substance abuse: Preferences and aversions; craving; tolerance and sensitization; discriminative and reinforcing effects of abused substances; subjective, sensory, perceptual, and performance effects; vulnerabilities to dependence; social influences; learning-theoretic and behavioral economic approaches
- Animal models of psychopathology and treatment: Processes underlying fear, depression, mania, violence, regulatory dysfunction, cognitive dysfunction, behavioral [dis]inhibition; genetic, biological, and social influences on development of pathology; behavioral interventions; behavioral aspects of psychopharmacologic interventions
- Social behavior and communication: Social organization; attachment, affiliation, mate choice and parent-offspring interaction; dominance, aggression and peacemaking; socialization; play; organization and function of communication processes
- Behavioral development: Perceptual, motor, and cognitive development; social and communicative development; sexual and reproductive development; development of behavioral control; prenatal influences; behavioral teratology; behavior genetics
- Regulatory and homeostatic processes: Feeding, drinking and other ingestive behaviors; sexual and reproductive behaviors; sleep and wakefulness; thermo-regulation; biological rhythms and cycles; activity levels; related perceptual, motivational, and action systems; behavioral and social influences on hormone action and gene expression
- Studies of basic learning principles and pharmacology applied to self- injurious behavior may be assigned to BRLE.

BRLE has the following shared interests within the BBBP IRG:

- Studies of the role of affect and stress in animal behavior and adaptation may be assigned to BRLE. Studies of the basic mechanisms underlying affect and stress responses in animals, especially when directly relevant to human mechanisms, may be assigned to MESH.
- Studies of animal communication may generally be assigned to BRLE, but animal work strongly connected to research on human language and communication may be assigned to LCOM.
- Studies of animal cognition and perception may generally be assigned to BRLE, but work strongly connected to research on human cognition and perception may be assigned to CP. Studies of human cognition and perception that are strongly connected to research on animal cognition and perception [e.g., investigations of classical/operant conditioning or those that take an ethological or evolutionary perspective] may be assigned to BRLE.
- CPDD reviews research involving applied behavior analysis in relation to mental retardation, particularly in humans. However, studies of basic learning principles and pharmacology applied to self-injurious behavior may be assigned to BRLE.
- Studies of global characteristics of motor function in animals, particularly in a broad behavioral context, may be assigned to BRLE. Studies focused on basic mechanisms underlying motor function may be assigned to MFSR.

BRLE has the following shared interests outside the BBBP IRG:

- **With the Genes, Genomes and Genetics [GGG] IRG:** When the focus is on phenotypic analysis or other aspects of a disease or biological process, where genetic analysis is secondary, the application may be assigned to BRLE. Studies in which the focus and conceptual framework of the application is a genetic analysis of complex traits, the application may be assigned to the GGG IRG.

- **With the Integrative, Functional and Cognitive Neuroscience [IFCN] IRG:** Studies in which the primary focus is on behavior and behavioral approaches may go to BRLE. Behavioral studies that focus on basic structural and functional neural mechanisms may be assigned to the IFCN IRG.

- **With the Brain Disorders and Clinical Neuroscience [BDCN] IRG:** Studies in which the primary focus is on basic behavioral mechanisms and processes may go to BRLE. Studies with a primary focus on behavioral processes directly related to neural injury or disease may be assigned to the BDCN IRG.

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Biobehavioral Mechanisms of Emotion, Stress and Health Study Section [MESH]

[MESH Roster]

The Biobehavioral Mechanisms of Emotion, Stress and Health [MESH] Study Section reviews applications focused on basic biobehavioral, psychological, social and cultural processes governing affect [emotion, mood] and stress in animals and humans. These studies may include application of basic research, theories and techniques to the study of physical and mental disease processes. Studies also focus on central, autonomic, neuroendocrine, immune, genetic, experiential and lifespan developmental processes, appraisal and coping processes, as well as studies of attachment, well-being, hedonic processes, resilience and behavioral expression. Studies of stress include both laboratory-induced and naturally occurring stressors.

Specific areas covered by MESH:

- Basic psychosocial mechanisms of affect [emotion, mood] and stress: Subjective emotional states [e.g., fear, surprise, happiness, sadness, anger]; emotional expression [e.g., facial, vocal, postural]; regulation of emotion and mood; socioemotional development [including attachment, temperament and social influences]; emotional consequences of life events and stressful conditions; resilience; cognitive influences [e.g., learning, reinforcement, imitation, appraisal] on emotion, stress, and coping.
- Affect and stress processes in central and autonomic nervous system, neuroendocrine and immune function: Bi-directional relationships of affect and stress with neurobiological, neuroendocrine and immune substrates [e.g., HPA axis, neurotransmitter systems] in both animals and humans; effects of these processes on psychological function and adaptation. Imaging and lesioning methods are included, as well as psychophysiological measures of regional brain activation, cardiovascular reactivity, respiratory function, sleep, arousal, and startle. Developmental aspects, including examination of experience-dependent CNS plasticity, are reviewed by this study section.
- Individual differences and social influences: Influence of personality, affective and cognitive factors, temperament, genetic predispositions, developmental and family experiences, marital status, social relationships, sexual identity, gender, age, ethnicity and culture, and socioeconomic status on affect and stress and their linked CNS and ANS processes
- Functional consequences of affect and stress: Effects of affect and stress on cognitive and motor function, pain and other symptom perception, participation in daily life activities, subjective well-being and quality of life, and social interaction. Coping processes and outcomes; Post-traumatic Stress Disorder caregiver burden and its effects
- Psychophysiological responses to stress: Biological [e.g., cardiovascular, respiratory, neuroendocrine, immune, central nervous system] responses to acute or chronic psychological stress and their moderation by individual, situational, or environmental factors [e.g., ethnicity, gender, personality, controllability, predictability] or physiological factors [e.g., physiological manipulations, genetic factors]
- Biological and behavioral responses associated with affect and stress: Research examining the influence of affect, stress, contextual or cue-controlled changes associated with affect or stress on psychological processes [e.g., influence of mood or stress on hunger, eating behavior, physical activity or craving]
- Genetic, social, and environmental interactions with biologic processes: Cardiopulmonary, endocrine, immune, and neural sequelae of interactions between genetic and behavioral or psychosocial factors

MESH has the following shared interests within the BBBP IRG:

- Studies of the role of affect and stress in animal behavior and adaptation may be assigned to BRLE, particularly when complex conditioning procedures are employed. Studies of the basic mechanisms underlying affect and stress responses in animals, especially when directly relevant to human mechanisms, may be assigned to MESH.
- Studies of the influence of affect and stress on cognitive and perceptual mechanisms may be assigned to CP. Studies of the influence of cognition and perception on affective and stress responses may be assigned to MESH.
- Studies focused on basic mechanisms underlying affect and stress responses both in normal and disordered populations may be assigned to MESH. Studies that examine disorders more broadly may be assigned to APDA. Studies of traumatic stress disorders in which the emphasis is on diagnosis or nosology may also be assigned to APDA.
- Studies focused on basic mechanisms underlying affect and stress responses both in normal and disordered populations may be assigned to MESH. Studies that examine disorders more broadly may be assigned to CPDD.

MESH has the following shared interests outside the BBBP IRG:

- **With the Genes, Genomes and Genetics [GGG] IRG**: The interaction of genetic, social and environmental factors may be assigned to MESH. The GGG IRG may review studies that focus on physiological processes such as basic structural and functional genetic mechanisms underlying affect and stress.

- **With the Risk, Prevention and Health Behavior [RPHB] IRG**: Studies that focus on basic biopsychological mechanisms of affect and stress may be assigned to MESH. Studies that emphasize social influences or interventions where the emphasis is not on biological processes, or that emphasize emotion as a form of motivation, or that examine affective style in personality, or psychological mechanisms of coping may be assigned to the RPHB IRG.

- **With the Immunology [IMM] IRG**: Applications focusing on bi-directional interactions of behavioral stress, emotion, personality, sickness behavior and psychopathology with immune function may be reviewed in MESH. Applications in which the emphasis is not behavioral may be assigned to the IMM IRG.

- **With the Cardiovascular Sciences [CVS] IRG**: Studies emphasizing the effects of acute or chronic psychological stress on cardiovascular endpoints, including blood pressure, cardiovascular disease, and ischemia may be assigned to MESH. Research on psychoneuroimmune and psychoneuroendocrine mechanisms in cardiovascular function, exercise as a moderator of the effects of stress on cardiovascular function, and interactions between emotion, personality, psychopathology and cardiovascular function (including reactivity) may be assigned to MESH. Studies of

basic mechanisms in which the emphasis is not behavioral may be assigned to the CVS IRG.

- **With the Respiratory Sciences [RES] IRG**: Studies emphasizing the effects of acute or chronic psychological stress on pulmonary endpoints, including respiratory function, may be assigned to MESH. Research on psychoneuroimmune and psychoneuroendocrine mechanisms in respiratory function and pulmonary function may be assigned to MESH. Studies of basic mechanisms in which the emphasis is not behavioral may be assigned to the RES IRG.

- **With the Integrative, Functional and Cognitive Neuroscience [IFCN] IRG**: Studies in which the primary research focus is behavioral may go to MESH. Studies where the primary focus is on neurobiology including psychoneuroendocrinology and psychoneuroimmunology may be assigned to the IFCN IRG.

- **With the Brain Disorders and Clinical Neuroscience [BDCN] IRG**: Studies where the primary focus is on behavior and behavioral approaches may go to MESH. Studies focused on the anatomical and functional bases of neural disorders may be assigned to the BDCN IRG.

TOP

Language and Communication Study Section [LCOM]

[LCOM Roster]

The Language and Communication [LCOM] Study Section reviews applications investigating language and other types of communication and their development across the lifespan [infancy through old age], primarily in humans. All forms of language and communication, both normal and disordered, are considered. As well as research concerned with the development and evaluation of preventive and therapeutic interventions for language and communication disorders. Studies of non-human animals may be included when these are directly relevant to understanding human language and communication. Methods include [but are not limited to] psychological experiments, naturalistic observation, linguistic and logical analyses, computational modeling, neuroimaging, and psychophysiological measurement.

Specific areas covered by LCOM:

- Language comprehension and production: Perception and production of spoken, written, gestural, and tactile language; phonetic and phonological analysis; morphological and lexical analysis; syntactic analysis; semantic and conceptual interpretation; inference; processing of communicative intentions and speech acts; discourse and conversation processing; sentence planning; speech errors; processing of idioms and figurative language; processing of dialect, register, and style; code switching; metalinguistic abilities
- Language development: Acquisition of grammatical and communicative competence; vocabulary growth; language change in adulthood; second-language acquisition and multilingualism; testing and assessment of language abilities
- Perceptual and cognitive processes underlying reading and writing abilities; acquisition and development of reading and writing abilities; reading fluency and automaticity; text processing; reading and writing by deaf and hearing-impaired people; assessment of reading and writing abilities; instructional methods for reading and writing; reading and writing disorders
- Non-linguistic communication: Facial, manual, and bodily gestures; gestures accompanying language use; non-linguistic vocal communication; pictorial communication; multimedia communication
- Brain regions underlying language/communication abilities; language/communication abilities in non-human species; genetic bases of language/communication abilities; genetic and neurobiological foundations of normal reading and writing development
- Nature, origins, and course of language/communication disorders [e.g., aphasia, dyslexia, dementia-related impairments, phonological disorders, specific language impairment]; assessment, prevention, and treatment of language/communication disorders
- Social-cultural factors: Relations between language and thought; influences of social roles and norms on use of language and other forms of communication; linguistic/communicative styles; social-cultural influences on linguistic/communicative development; language use and development in multilingual environments; social-cultural aspects of assessment and interventions for language/communication disorders; social-cultural influences on literacy development; acquisition of reading and writing in multilingual environments

LCOM has the following shared interests within the BBBP IRG:

- Studies of animal communication may generally be assigned to BRLE, but animal work strongly connected to research on human language and communication may be assigned to LCOM.
- Studies that use linguistic stimuli to investigate general cognitive or perceptual processes may be assigned to CP. Studies of processes specifically related to language may be assigned to LCOM.
- Studies of symptoms, disorders, and interventions specifically related to language/communication may be assigned to LCOM. Studies that consider a broader range of abnormality in adults may be assigned to APDA.
- Studies of symptoms, disorders, and interventions specifically related to language/communication, including specific language impairment and dyslexia, may be assigned to LCOM. Studies that consider a broader range of developmental abnormality may be assigned to CPDD.
- Studies of the motor processes underlying sound production and gesture, independent of their linguistic or communicative significance, may be assigned to MFSR. Studies that consider their linguistic or communicative significance may be assigned to LCOM.

LCOM has the following shared interests outside the BBBP IRG:

- **With the Genes, Genomes and Genetics [GGG] IRG**: Applications focusing on genetic mechanisms in language and communication that have a primary focus on behavioral endpoints may be assigned to LCOM. Studies of basic genetic mechanisms in which the emphasis is not behavioral may be assigned to the GGG IRG.

- **With the Biology of Development and Aging [BDA] IRG:** Applications on an aging population regarding cognitive or linguistic impairments that have a primary focus on behavioral endpoints may be assigned to LCOM. Applications with a primary focus on physiologic or biological antecedents and endpoints when an aging population is specifically studied may be assigned to the BDA IRG.

- **With the Integrative, Functional and Cognitive Neuroscience [IFCN] IRG:** Applications focusing on neural mechanisms underlying language and communication that have a primary focus on behavioral endpoints may be assigned to LCOM. Studies regarding the basic function of the auditory system or in which the primary focus involves the manipulation, measurement, or modeling of neural mechanisms may be assigned to the IFCN IRG.

- **With the Brain Disorders and Clinical Neuroscience [BDCN] IRG:** Applications focusing on neural basis of abnormalities in language and communication that have a primary focus on behavioral endpoints may be assigned to LCOM. Studies of the neural basis of abnormalities in which the emphasis is not behavioral may be assigned to the BDCN IRG.

TOP

Cognition and Perception Study Section [CP]

[CP Roster]

The Cognition and Perception [CP] Study Section reviews applications investigating cognition and perception and their development across the entire lifespan [infancy through old age], primarily in humans. Normal and disordered forms of cognition and perception are considered. Studies of non-human animals are appropriate when these are directly relevant to understanding processes in humans. Also included are the influences of affect, stress, and substance use and of physical, social and cultural contexts, provided that the emphasis is on the nature of cognitive and perceptual processes. Methods include [but are not limited to] psychological experiments, naturalistic observation, mathematical and computational modeling, neuroimaging, neuropsychology, and psychophysiological measurement.

Specific areas covered by CP:

- Perceptual mechanisms for all sensory modalities; object recognition; processing of spatial and temporal relations; scene recognition; eye-movement control; intermodal perception; perception of music and other complex auditory events
- Nature, acquisition, and use of knowledge about perceptual and physical properties of objects, scenes, and events; physical reasoning; processing of numerical and timing information
- Planning and monitoring of actions; navigation; nature and acquisition of motor skills; perceptual-motor integration; human-technology interaction
- Attentional control and allocation; capacity and resource limitations; automatization
- Encoding, consolidation, and retrieval processes; short-term, working, and long-term memory; semantic, episodic, declarative, procedural and other types of memory and their interactions; organization of information in memory
- Nature and organization of conceptual, semantic, propositional, and schematic knowledge; categorization; understanding of causality; expert knowledge; folk/naive knowledge of biology, psychology, and other domains
- Acquisition of knowledge and skills; implicit and explicit learning; rule induction; roles of instruction and practice; exploratory behavior
- Reasoning, decision-making, and problem-solving. Use of rules, models, strategies, and heuristics; deductive and inductive reasoning; mathematical and statistical reasoning; analogical reasoning; choice behavior
- Executive function: Planning and monitoring of complex behaviors; coordination of cognitive operations; consciousness
- Principles and mechanisms of development: Genetic, learning, and dynamic approaches; age-related changes in knowledge, strategies, and processing speed; plasticity; effects of training and education
- Intelligence and aptitudes: Individual differences in cognitive abilities; testing and assessment; cognitive style; creativity
- Cognitive/perceptual mechanisms underlying behavioral and mental disorders [e.g., addiction, amnesia, autism, dementia, mental retardation, mood disorders, perceptual deficits, schizophrenia, substance abuse], including cognitive/perceptual vulnerabilities for disorder.

CP has the following shared interests within the BBBP IRG:

- Studies of animal cognition and perception may generally be assigned to BRLE, but work strongly connected to research on human cognition and perception may be assigned to CP. Similarly, studies of human cognition and perception that are strongly connected to research on animal cognition and perception [e.g., investigations of classical/operant conditioning or that take an ethological or evolutionary perspective] may be assigned to BRLE.

- Studies of the influence of affect and stress on cognitive and perceptual mechanisms may be assigned to CP. Studies of the influence of cognition and perception on affective and stress responses may be assigned to MESH.
- Studies that use linguistic stimuli to investigate general cognitive or perceptual processes may be assigned to CP. Studies investigating processes specifically related to language may be assigned to LCOM.
- Studies of cognitive/perceptual mechanisms involved in adult disorders may be assigned to CP. Studies that examine disorders of aging more broadly may be assigned to APDA. Studies of preventive and remedial interventions may be assigned to APDA.
- Studies of cognitive/perceptual mechanisms with implications for developmental disorders may be assigned to CP. Studies that examine developmental disorders more broadly may be assigned to CPDD. Studies of preventive and remedial interventions may be assigned to CPDD.
- Studies of higher-level motor planning or the relation of motor function to other aspects of cognition or perception may be assigned to CP. However, studies of higher-level planning related to language or speech sound production may be assigned to MFSR or LCOM.

CP has the following shared interests outside the BBBP IRG:

- **With the Genes, Genomes and Genetics [GGG] IRG:** Applications focusing on genetic mechanisms underlying cognition and perception that have a primary focus on behavioral endpoints may be assigned to CP. Studies of genetic mechanisms in cognition and perception in which the emphasis is not behavioral may be assigned to the GGG IRG.

- **With the Biology of Development and Aging [BDA] IRG:** Applications on an aging population regarding cognitive or perceptual impairments that have a primary focus on behavioral endpoints may be assigned to CP. Applications with a primary focus on physiologic or biological antecedents and endpoints when an aging population is specifically studied may be assigned to the BDA IRG.

- **With the Risk, Prevention and Health Behavior [RPHB] IRG:** The RPHB IRG may review studies of interventions that focus on the cognitive aspects of personality and social interaction.

- **With the Integrative, Functional and Cognitive Neuroscience [IFCN] IRG:** Applications focusing on neural mechanisms underlying cognition and perception that have a primary focus on behavioral endpoints may be assigned to CP. Studies regarding the basic function for visual sensation and early stages of visual perception, the basic function of the auditory system, the neural bases of memory and learning, or the neural bases of cognition and perception in which the primary focus is not behavior but on the physiological processes may be assigned to the IFCN IRG.

- **With the Brain Disorders and Clinical Neuroscience [BDCN] IRG:** Applications focusing on neural mechanisms underlying cognition and perception that have a primary focus on behavioral endpoints may be assigned to CP. Studies of the neural basis of abnormalities in cognition and perception in which the emphasis is not behavioral may be assigned to the BDCN IRG.

TOP

Adult Psychopathology and Disorders of Aging Study Section [APDA]

[APDA Roster]

The Adult Psychopathology and Disorders of Aging [APDA] Study Section reviews applications concerned with emotional, behavioral, and cognitive disorders in adults. Emphasis is on clinical aspects of disorders including: schizophrenia, mood disorders, suicide, anxiety and traumatic stress disorders, eating disorders, substance use disorders, personality disorders; Alzheimer's disease, traumatic brain injury, and sleep disorders. Samples may include clinic, community diagnosed, symptomatic and high-risk groups. Relevant research includes investigations of psychological and biological vulnerability factors, processes and markers; and studies of etiology, diagnosis, course, treatment, functional outcome and comorbidity with other physical conditions and disorders. Environmental, social and cultural factors may also be studied as they relate to individual differences in psychological and biological dysfunction.

Specific areas covered by APDA:

- Psychological [e.g., cognitive, affective], biological [e.g., genetics, neural mechanisms], factors involved in etiology of disorders; shared and distinct etiologies in comorbid disorders; vulnerability and triggering factors in onset of disorders; identification of cognitive, affective and biological markers of risk for onset; the etiology of suicide; consequences of social relationships and environment on cognitive and affective disorders and in ameliorating specific dysfunction associated with disorder. Studies of environmental, social and cultural factors may be appropriate as related to individual factors.
- Diagnosis and nosology: Classification of disorders using family, course, outcome, treatment response and biological validation methods; diagnostic, clinical and functional assessment instruments and techniques; description of symptom patterns, identification of behavioral dimensions and behavioral phenotypes; identification of more homogeneous disorder subgroups; familial spectrum of disorders; cultural syndromes and the professional and indigenous taxonomies of disorders
- Course and outcome: Course of disorders including vulnerability, triggering, and protective factors involved in disorder onset, progression, relapse, and recurrence, including social and biological indicators and outcomes; comorbidity in clinical course; functional impact of comorbidity; suicide, self-harm, and behavioral risk behaviors in persons with disorders; functional outcomes [e.g., work, independent living, and social functioning] in relation to etiological factors, diagnosis, illness markers, prior interventions, and environmental risks; longitudinal course and developmental

transitions [e.g., aging, reproductive transitions in diagnosed samples]; disorder in special populations [e.g., geriatric depression, postpartum depression]

- Cognitive and affective processes and markers: processes of cognition, affect, attention, and memory in samples with disorders; these processes in relation to vulnerability for onset, relapse, or recurrence of disorder; behavioral and clinical studies of these processes in diagnostic groups, or in high-risk or spectrum-disordered individuals; impact of cognitive and affective variables on functional outcomes [e.g., work, independent living, and social functioning]
- Behavioral and clinical studies of biological, genetic, and behavioral processes and/or vulnerability, disability, and illness markers [e.g., psychophysiological or neurocognitive abnormalities, structural or functional brain patterns identified by neuroimaging, genetic factors]; these processes and markers in relation to diagnosis, nosology, course, affect, and behavioral and functional outcomes
- Behavioral and pharmacologic interventions: Development and pilot testing primary or adjunctive behavioral interventions designed to alter course of disorder; behavioral and social interventions in promoting rehabilitation of persons; interventions designed to prevent comorbid outcomes; development of culturally sensitive interventions

APDA has the following shared interests within the BBBP IRG:

- Studies of basic mechanisms underlying affect and stress responses in normal and disordered populations may be assigned to MESH. Studies that examine disorders more broadly may be assigned to APDA.
- Studies of symptoms, disorders, and interventions specifically related to language/communication may be assigned to LCOM. Studies that consider a broader range of abnormality in adults may be assigned to APDA.
- Studies of cognitive/perceptual mechanisms involved in adult disorders may be assigned to CP, while studies that examine adult disorders more broadly may be assigned to APDA. Studies of preventive and remedial interventions may be assigned to APDA.
- Studies of disorders in adult or adolescent samples may be assigned to APDA. Studies of the longitudinal course of those disorders may generally be assigned to CPDD. Studies of processes common to both childhood and adult disorders may be assigned to either APDA or CPDD.
- Studies of symptoms, disorders, and interventions specifically related to motor function may be assigned to MFSR. Studies that consider a broader range of abnormality in adults may be assigned to APDA.

APDA has the following shared interests outside the BBBP IRG:

- **With the Genes, Genomes and Genetics [GGG] IRG:** Studies of genetic mechanisms in adult disorders in which the emphasis is not behavioral may be assigned to the GGG IRG.

- **With the Biology of Development and Aging [BDA] IRG:** Applications on an aging population with dementia or mood disorders in which a primary focus is on behavioral antecedents or endpoints may be assigned to APDA. The BDA IRG may review the application if the primary focus is on physiological or biological antecedents and endpoints in an aging population.

- **With the Health of the Population [HOP] IRG:** Studies that focus on the individual level of analysis in adult disorders and disability may be reviewed in APDA. Applications with studies nested within multi-level, multi-contextual studies focusing on the interrelationships among individual, familial [biologic, genetic and/or environmental factors], social and cultural factors and behaviors in the etiology, natural history, and consequences of disorders and diseases may be assigned to the HOP IRG.

- **With the Risk, Prevention and Health Behavior [RPHB] IRG:** Applications that focus on treatment and interventions for existing disorders and disability in adults may be assigned to APDA. Applications that focus on processes relevant to risk or a range of disorders and other outcomes, studies of interventions to control behavioral habits or disorders, or the effects of pain, symptom perception, depression, anxiety, social, cultural and other factors in relation to physical illness may be assigned to the RPHB IRG.

- **With the Brain Disorders and Clinical Neuroscience [BDCN] IRG:** Studies of adult disorders that are primarily behavioral in emphasis may be assigned to APDA. Studies that focus predominantly on neurotransmitter and receptor function in the neural disorder or injury may be assigned to the BDCN IRG. These often involve animal models.

- **Study Sections in NIAAA, NIDA and NIMH** may review applications in treatment and health services research. For more information, see the Institutes' respective web sites.

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Child Psychopathology and Developmental Disabilities Study Section [CPDD]

[CPDD Roster]

The Child Psychopathology and Developmental Disabilities [CPDD] Study Section reviews applications on developmental, psychopathological, and substance use disorders in infants, children, adolescents, and adults with disorders originating in early development. Emphasis is placed on cognitive, behavioral, social, family, and neurobiological aspects of a] developmental disabilities such as autism and mental retardation; brain injury and communication and learning disabilities; b] disorders of behavioral and/or emotional regulation such as attention deficit hyperactivity disorder, Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infections (PANDAS), mood disorders, suicide, anxiety and traumatic stress disorders, conduct disorder, eating disorders, personality disorders, and psychoses; c] substance use disorders; and d] the relationship among these disorders over time.

Specific areas covered by CPDD:

- The short- and long-term development of infants and children with identified risk factors including early brain injury, prematurity, low birth weight, genetic risk, environmental risk and teratogens [including substance abuse], as well as the role of familial and psychosocial stress on the behavior and development of compromised children
- Disorders of cognitive, sensory, perceptual and motor development: Included are disorders such as mental retardation, autism, attention deficit and learning disabilities
- Child and adolescent psychopathology: Studies of diagnosis, etiology, comorbidity, clinical course and outcomes
- Neurobiologic, genetic, and other biobehavioral factors: Biological, genetic and neural factors underlying developmental disorders and child psychopathology. Included are genetic and family studies, neuropathological studies, neurochemical and neuroimaging studies, and studies of teratogenic exposures, when the emphasis is on the relationship between these factors and clinical or functional outcomes over time
- Congenital and acquired disorders that affect brain development and behavior: Studies of disorders that affect development because of CNS impairments, including congenital disorders such as spina bifida; known genetic disorders such as Williams syndrome, Down syndrome, Fragile X; acquired disorders such as Traumatic Brain Injury, CNS tumors, cerebral palsy, and focal lesions; effects of CNS treatment on development
- Teratogens and substance abuse: Studies of prenatal exposure to alcohol, cocaine, and other drugs; prenatal and postnatal effects of lead, mercury, and other toxins; environmental factors associated with neural tube defects
- Treatment and rehabilitation: Studies that address psychosocial, behavioral, educational, and rehabilitative primary or adjunctive interventions for children with these disorders

CPDD has the following shared interests within the BBBP IRG:

- Studies of basic learning principles and pharmacology applied to self-injurious behavior may be assigned to BRLE.
- Studies of basic mechanisms underlying affect and stress responses in normal and disordered populations may be assigned to MESH. Studies that examine disorders more broadly may be assigned to CPDD.
- Studies of symptoms, disorders, and interventions specifically related to language/communication, including specific language impairment and dyslexia, may be assigned to LCOM. Studies that consider a broader range of developmental abnormality may be assigned to CPDD.
- Studies of basic cognitive/perceptual mechanisms underlying developmental disorders may be assigned to CP. Studies that examine developmental disorders more broadly may be assigned to CPDD. All studies of preventive and treatment interventions may be assigned to CPDD.
- Studies of disorders in adult or adolescent samples may be assigned to APDA. Studies of the longitudinal course of those disorders may generally be assigned to CPDD. Studies of processes common to both childhood and adult disorders may be assigned to either APDA or CPDD.
- Studies of symptoms, disorders, and interventions specifically related to motor function may be assigned to MFSR. Studies that consider a broader range of developmental abnormality may be assigned to CPDD.

CPDD has the following shared interests outside the BBBP IRG:

- **With the Genes, Genomes and Genetics [GGG] IRG:** Studies of genetic mechanisms in child disorders in which the emphasis is not behavioral may be assigned to the GGG IRG.

- **With the Health of the Population [HOP] IRG:** Studies that focus on the individual level of analysis in child disorders and disability may be reviewed in CPDD. Applications with studies nested within multi-level, multi-contextual studies focusing on the interrelationships among individual, familial [biologic, genetic and/or environmental factors], social and cultural factors and behaviors in the etiology, natural history, and consequences of disorders and diseases may be assigned to the HOP IRG.

- **With the Risk, Prevention and Health Behavior [RPHB] IRG**: Studies concerned with particular disorders in children or adolescents or that focus on treatment and interventions for developmental disorders and disability may be assigned to CPDD. Applications that focus on preventive interventions targeting interpersonal processes, as well as those focusing on understanding risk and protective factors, whether in typical, risk or disordered groups may be assigned to the RPHB IRG.

- **With the Brain Disorders and Clinical Neuroscience [BDCN] IRG:** Studies of developmental disabilities that are primarily behavioral in emphasis may be reviewed in CPDD. Studies that focus on physiological processes such as neural mechanisms underlying developmental or psychiatric disorders may be assigned to the BDCN IRG. These often involve animal models.

- **Study Sections in NIAAA, NIDA, and NIMH** may review applications in treatment and health services research. For more information, see the Institutes' respective web sites.

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Motor Function, Speech and Rehabilitation Study Section [MFSR]

[MFSR Roster]

The Motor Function, Speech and Rehabilitation [MFSR] Study Section reviews applications on normal and disordered motor function, including speech and voice production. Function across the lifespan [infancy through old age], in humans and other animals, is addressed. Also included are the development and evaluation of preventive and therapeutic interventions for movement, speech, voice, and related disorders. Although the focus is on behavior, studies may also consider associated anatomical, physiological, neural, hormonal, and genetic factors. Methods include [but are not limited to] behavioral experiments, physiological measurement, acoustic analysis, structural and functional imaging, and computational modeling.

Specific areas covered by MFSR:

- Movement: Control of limbs and extremities; body posture and balance; locomotion; head, jaw, mouth, laryngeal, eye, facial and related movements; sensory-motor integration; motor learning and motor skills; movement disorders [including dyskinesia, dyspraxia, dystonia, paralysis, parkinsonism, repetitive stress injury, spasticity, tremor]
- Sound production: Motor aspects of production of speech and other sounds via respiratory, laryngeal, and articulatory mechanisms; interactions of motor, acoustic and perceptual aspects of sound production; relations with breathing, chewing, swallowing, etc.; speech, voice, and related disorders [including dysarthria, dysfluency, dysphagia, dysphonia]
- Normal and abnormal development of movement and sound production; aging-related changes; interactions with other physical conditions
- Prevention and treatment of movement, speech, voice, and related disorders/disabilities; physical rehabilitation following disease or injury; prosthetic and adaptive technologies; related exercise

MFSR has the following shared interests within the BBBP IRG:

- Studies of global characteristics of motor function in animals, particularly in a broad behavioral context, may be assigned to BRLE. Studies of basic mechanisms underlying motor function may be assigned to MFSR.
- Studies of motor processes underlying sound production and gesture may be assigned to MFSR. Studies of speech perception or the linguistic or communicative significance of sounds may be assigned to LCOM.
- Studies of higher-level motor planning or the relation of motor function to other aspects of cognition or perception may be assigned to CP. However, studies of higher-level planning related to speech sound production may be assigned to MFSR or LCOM.
- Studies of symptoms, disorders, and interventions specifically related to motor function may be assigned to MFSR. Studies that consider a broader range of abnormality in adults may be assigned to APDA.
- Studies of symptoms, disorders, and interventions specifically related to motor function may be assigned to MFSR. Studies that consider a broader range of developmental abnormality may be assigned to CPDD.

MFSR has the following shared interests outside the BBBP IRG:

- **With the Genes, Genomes and Genetics [GGG] IRG:** Applications focusing on genetic mechanisms in speech and motor behavior may be assigned to MFSR. Studies of genetic mechanisms in which the emphasis is not behavioral may be assigned to the GGG IRG.

- **With the Musculoskeletal, Oral and Skin Sciences [MOSS] IRG:** Applications that focus on prosthetic devices, motor control, problems of aging in the musculoskeletal system and rehabilitation interventions in which the primary focus is on altering the behavior of the individual may be assigned to MFSR. Neural control of movement and developmental motor issues (e.g., cerebral palsy, Parkinson's disease and stroke) may be reviewed by MFSR. If the focus of the rehabilitation strategy is to improve the physical well-being of the individual, or if the emphasis is on the rehabilitation of muscle and/or orthopaedic function, or the focus is on orthopedic surgery, chiropracty, osteopathy, pathology and physiology of bone and cartilage, the application may be assigned to the MOSS IRG.

- **With the Integrative, Functional and Cognitive Neuroscience [IFCN] IRG:** Studies in which the primary research focus is speech and motor behavioral may go to MFSR. The IFCN IRG may review studies examining neural bases of auditory and motor function or the neural bases of higher-level motor planning or of motor/perceptual/cognitive interactions.

- **With the Brain Disorders and Clinical Neuroscience [BDCN] IRG:** Studies in which the primary research focus is behavioral may go to MFSR. Studies that focus on physiological processes such as neural bases of abnormalities of motor functions may be assigned to the BDCN IRG.

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Biobehavioral and Behavioral Processes Small Business Activities Special Emphasis Panels [BBBP Small Business SEPs]

SBIR/STTR applications reviewed by the BBBP IRG cover a broad spectrum of research on all aspects of biobehavioral and behavioral processes in normal and disordered populations.

Small Business: Science Education, xml:namespace prefix = "st1" ns = "urn:schemas-microsoft-com:office:smarttags" />Reading, Speech and Deafness [BBBP (10)] reviews applications on: science education for the non-professional; educational technology; speech [including augmentative and alternative communication devices and automated translation devices], deafness, language and reading; childhood psychopathology, developmental disabilities [mental retardation, autism, learning disabilities, ADHD], and parenting as related to childhood psychopathology/disabilities, deafness and language/reading disorders.

Small Business: Psychopathology and Adult Disorders [BBBP (11)] reviews applications on: adult psychopathology [schizophrenia, depression, anxiety disorders], disorders of aging [Alzheimer□s disease, Parkinson□s disease]; sleep; neuropsychology; cognitive aging and memory; driving simulation; co-morbid substance abuse; management of emotion in adults [e.g., anger and stress]; and automated analyses of animal behavior related to psychopathology, substance abuse and/or mental disorders.

BBBP Small Business Activities have the following shared interests outside the IRG:

- **With the Risk, Prevention and Health Behavior [RPHB] IRG:** While RPHB reviews small business applications with respect to substance abuse prevention, BBBP (10) is more appropriate when substance abuse subject matter is used to teach underlying principles of neuroscience, biology and related disciplines and BBBP (11) is more appropriate when the focus is on intervention rather than prevention.

- **With the Musculoskeletal, Oral and Skin Sciences [MOSS] IRG:** The MOSS IRG reviews studies on musculoskeletal rehabilitation medicine and assistive technologies and devices. These include gait analysis and human emotion, monitoring of external body movements and temperature, orthotics, prosthetic development and devices for motor function, wheelchairs and mobility aids, and exercise equipment. If the focus of the rehabilitation strategy is to improve the physical well being of the individual, or if the emphasis is on the rehabilitation of muscle and/or orthopaedic function (e.g., in stroke, Parkinson's disease), the application may be reviewed in MOSS. However, if the focus of the study is on altering the behavior of the individual, the application is more appropriate for BBBP (11).

- **With the Integrative, Functional and Cognitive Neuroscience [IFCN] IRG:** While IFCN reviews small business applications on the neuroscience of sensory and cognitive systems other than vision, as well as tools for use in functional neuroscience research, applications dealing with interventions for sensory or cognitive impairments would be reviewed by BBBP (10) or (11).

- **With the Brain Disorders and Clinical Neuroscience [BDCN] IRG:** The BDCN IRG reviews a wide range of small business applications that have, as their main focus, neural disorders and/or injury of the nervous system; however, applications dealing with behavioral interventions are more appropriate for BBBP (10) or (11).

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Cognition, Language and Perception Fellowship Study Section [F12A]

Cognition, Language and Perception

[Biobehavioral and Behavioral Processes (BBBP) Integrated Review Group]

[F12A Roster]

The F12A study section reviews fellowship applications investigating language and other types of communication and their development across the lifespan [infancy through old age], primarily in humans. All forms of language and communication, both normal and disordered, are considered. Also considered by the F12A fellowship study section are applications investigating cognition and perception and their development across the lifespan. Normal and disordered forms of cognition and perception are considered. xml:namespace prefix = "o" ns = "urn:schemas-microsoft-com:office:office" />

- Language development and origins of language/communication disorders
- Language comprehension and production
- Non-linguistic communication

- Brain-regions underlying language/communication abilities
- Perceptual and cognitive processes underlying reading and writing abilities
- Perceptual mechanisms for all sensory modalities
- Reasoning, decision-making, and problem-solving
- Intelligence and aptitudes
- Cognitive/perceptual mechanisms underlying behavioral and mental disorders
- Acquisition of knowledge and skills
- Planning and monitoring of actions
- Executive function

Shared Interests

With F01 (Brain Disorders and Related Neuroscience): Fellowship applications focus predominantly on anatomical substrates, neurotransmitter, and receptor function related to language, cognitive or perceptual processes related to neural disorders or injury may be assigned to the F01 fellowship study section. Fellowship applications concerning language, cognitive or perceptual processes that are primarily behavioral in emphasis may be assigned to F12A.

With F02A (Behavioral Neuroscience): Fellowship applications that focus on learning and memory with emphasis on how the nervous system is organized and functions at an integrative, systems level may be assigned to F02A. Fellowship applications that emphasize biobehavioral and behavioral bases of learning and memory (central, autonomic, neuroendocrine, and/or genetic) may be assigned to F12A.

With F02B (Sensory, Motor, and Cognitive Neuroscience): Fellowship applications on sensory or cognitive neuroscience at an integrative level may be assigned to F02B. Fellowship applications primarily on behavioral science may be assigned to F12A.

With F11 (Psychosocial and Developmental Processes, Personality, and Behavior): Fellowship applications that emphasize individual differences, interpersonal processes, life course transitions, or contextual effects related to social, developmental, and personality psychology may be assigned to F11. Fellowship applications that emphasize biobehavioral and behavioral bases (including central, autonomic, neuroendocrine, and genetic factors) of cognitive, perceptual or communicative processes may be assigned to F12A.

With F12B (Psychopathology, Developmental Disabilities, Stress and Aging): Fellowship applications that emphasize the biological or physical bases of social, psychological or emotional conditions and processes in disordered populations, including animal models, may be assigned to F12B. Fellowship applications that emphasize the biobehavioral and behavioral (including central, autonomic, neuroendocrine, and genetic) bases of cognitive, perceptual or communicative processes may be assigned to F12A.

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Psychopathology, Developmental Disabilities, Stress and Aging Fellowship Study Section [F12B]

Psychopathology, Developmental Disabilities, Stress and Aging

[Biobehavioral and Behavioral Processes (BBBP) Integrated Review Group]

[F12B Roster]

The F12B study section reviews fellowship applications concerned with emotional, behavioral, and developmental disorders across the lifespan. Also included are substance use disorders, as well as their effects on children when they occur prenatally. Emphasis is on psychopathology and disorders of aging such as: schizophrenia, mood disorders, suicide, anxiety and traumatic stress disorders, eating disorders, substance use disorders personality disorders, Alzheimer's disease, dementia, traumatic brain injury and sleep disorders. Also included for review in the F12B study section are fellowship

applications on basic biobehavioral, psychological, social and cultural processes governing affect (emotion, mood) and stress in animals and humans. Examples of specific areas covered are listed below:

- Behavioral, cognitive, emotional and biological factors involved in etiology of disorders
- Diagnosis and nosology of disorders
- Course and outcome of disorders
- Behavioral and pharmacologic interventions/treatments; adherence to behavioral and pharmacologic treatments
- Disorders of cognitive, sensory, perceptual and motor development: Included are disorders such as mental retardation, autism, substance abuse, addiction, attention deficit and learning disabilities
- Congenital and acquired disorders that affect brain development and behavior: Included are Williams syndrome, Down syndrome, traumatic brain injury and CNS tumors/lesions
- Prenatal exposure to substance abuse and prenatal/postnatal effects of toxins
- Affect and stress processes in central and autonomic nervous system, neuroendocrine and immune function
- Psychophysiological responses to stress
- Functional consequences of affect and stress
- Comorbidity of substance abuse and psychiatric disorders

Shared Interests

With F01 (Brain Disorders and Related Neuroscience): Fellowship applications focused predominantly on anatomical substrates, neurotransmitter, and receptor function in neural disorders or injury, or on pharmacologic agents for substance abuse may be assigned to the F01 fellowship study section. Fellowship applications concerning developmental disabilities, substance abuse disorders , disorders of aging or psychopathology that are primarily behavioral in emphasis may be assigned to F12B.

With F02A (Behavioral Neuroscience): Studies where the primary focus is on neurobiology including psychoneuroendocrinology and psychoneuroimmunology may be assigned to F02A. Studies in which the primary research focus is behavioral may go to F12B.

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With F02B (Sensory, Motor, and Cognitive Neuroscience): Fellowship applications that emphasize underlying neural systems in these areas without specific reference to disease may be more appropriate for F02B. Fellowship applications that emphasize behavioral mechanisms related to psychopathology, developmental disabilities or disorders of aging may be assigned to F12B.

With F11 (Psychosocial and Developmental Processes, Personality, and Behavior): Fellowship applications that emphasize individual differences, interpersonal processes, life course transitions, or contextual effects related to the manifestation, prevention, treatment or management of physical and mental diseases and disorders may be assigned to F11. Fellowship applications that emphasize the biobehavioral and behavioral (including central, autonomic, neuroendocrine, and genetic) bases of social, psychological or emotional conditions and disorders in diagnosed populations may be assigned to F12B.

With F12A (Cognition, Language and Perception): Fellowship applications that emphasize the biobehavioral and behavioral (including central, autonomic, neuroendocrine, and genetic) bases of cognitive, perceptual or communicative processes may be assigned to F12A. Fellowship applications that emphasize the biological or physical bases of social, psychological or emotional conditions and processes in disordered populations, including animal models, may be assigned to F12B.

With F16 (Health and Health Related Behavior of Individuals and Populations): Fellowship applications in which the focus is on social or environmental levels of analysis or epidemiological studies of risk and protective factors may be appropriate for F16. Fellowship applications that focus on the individual level of analysis in child and adult psychopathology, behavioral and developmental disabilities and disorders of aging may be appropriate for F12B.

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